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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/965,779

09/27/2001

Thomas Spichale

10191/2012

3425

26646

7590

09/15/2005

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EXAMINER

CHANG, EDITH M

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/965,779	Applicant(s) SPICHALE, THOMAS	
	Examiner Edith M. Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20050603</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments/Remarks

1. Applicant's arguments, see pages 3-4, filed on June 13, 2005, with respect to the rejection(s) of claim(s) 1-11 under U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mendez et al. (US 6,467,065).

Information Disclosure Statement

2. The information disclosure statement filed June 3, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

3. The drawings were received on June 13, 2005. These drawings are accepted.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mendez et al. (US 6,467,065) in view of Crawford (US 5,418,526) and Harris et al. (US 4,897,854).

Regarding to **claims 1, 8 & 10**, in FIG.1, Mendez discloses a master/slave control system 12 comprising a master controller 14 including any of a number of electronic control devices such as those found on a vehicle. For example, master controller 14 may include an engine control module, or a body controller for controlling motor operated window, powered-seats, and other electronic load devices (column 3, lines 33-39), any of these is as the *first subscriber* transmitting and receiving the PWM signals at one rate over the vehicle bus 30 connected to various control systems in the vehicle 10 (column 3, lines 10-13), wherein the SAE J1850 Class II is for the rate PWM signals; slave devices 18a-18n (as the *second subscriber*) transmitting serial data over the serial bus 16 (column 3, lines 14-16), wherein the serial bus 16 is for *the local network data (the asynchronous data)* at another rate (column 3, lines 12-15); and the *serial bus 16 connects* the master controller and slave devices. However Mendez does not explicitly specify/show the interface (or arrangement) for exchanging the PWM signals and the asynchronous signals between the master controller and slave devices; and the detail of PWM encoding.

With respect to the *interface/arrangement*, Crawford teaches the Slave Bus Controller Circuit (SBCC) 102 in FIG.1 as the Class A interface (column 1, lines 48-54)

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to receive and transmit PWM class B signals (the SAE J1850 Class II, column 1, lines 24-30) from and to the Class B nodes. In FIG.3, a detail structure of the SBCC, the bit decoder 154 decode the PWM signals to non-return-to-zero (NRZ) bit data (the asynchronous signal), and the PWM generator 180 transform the NRZ bit stream to PWM response transmitted via the network interface 148. As Mendez et al. suggests that the local data communication bus 16 and main data communication bus 30 may communicate serial data according to known protocols which may include pulse width modulation coding (column 3, lines 16-200 '065), at the time of the inventions was made, it would have been obvious for one of ordinary skill in the art to have the SBCC taught by Crawford deployed in the vehicle master and slave control system 12 of the Mendez et al. to have a low cost interface/arrangement for simply input and output functions on a PWM (class B) network, since the SBCC provides inexpensive NRZ asynchronous communication using the PWM encoding (SAE J1850 protocol, column 2, lines 4-6 '526).

With respect to the PWM encoding, Harris et al. teaches in FIG.1. The pulse width modulator 18 receiving a data input in serial NRZ form as shown in waveform 62 (column 2, lines 57-61) and output a PWM wave form 64 (column 2, lines 62-64), that the PWM signal represents the number of data bits (the binary signals) of the NRZ signal (column 2, line column 3, lines 3-5). As Crawford inputting the NRZ bit stream to the PWM GEN. to provide the PWM response (180 FIG.3 '526), at the time of the inventions was made, it would have been obvious for one of ordinary skill in the art to have the PWM encoding scheme for serial data transmission taught by Harris et al.

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implemented in Crawford's SBCC to provide a digital data encoding scheme which enjoys the advantages of both AMI and PWM, and is suitable for use in transformer coupled systems (column 2, lines 13-17) in an environmentally hostile environment, such as in an automobile (column 1, lines 5-10 '854).

Regarding **claims 2, 9 & 11**, the combined/modified Mendez et al.'s master/slave system discloses increasing the NRZ bit rate (180 FIG.3 '526 & 18 PWM 62 and 64 waveforms FIG.1 '854).

Regarding **claims 3 & 5**, the combined/modified Mendez et al.'s master/slave system discloses one time segment (message 108 FIG.1 '526) of the PWM data signal representing the number of the data bits of the asynchronous data signal in the message; and the NRZ bit stream (180 FIG.3 '526 & asynchronous waveform 62 and PWM waveform 64 FIG.1 '854) is specified as a function of the PWM rate.

Regarding **claim 4**, the combined/modified Mendez et al.'s master/slave system discloses the PWM response (180 FIG.3 '526 & asynchronous waveform 62 and PWM waveform 64 FIG.1 '854) is determined as a function of the NRZ bit stream rate.

Regarding **claims 6 & 7**, the combined/modified Mendez et al.'s master/slave system discloses the signal transmitted on serial bus including a start SOM signal 110 (FIG.1 '526), at least one data signal 122 (FIG.1 '526), and one stop EOM signal 126 (FIG.1 '526).

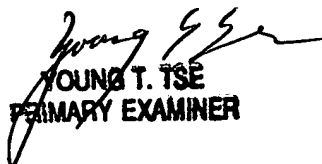
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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay K. Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
September 8, 2005


YOUNG T. TSE
PRIMARY EXAMINER